

Supplementary Material

Tables

Table S1: The physico-chemical properties of Tamanu oil

Parameter	Refined Tamanu Oil
Viscosity (mPa·s)	42.9
Relative Density	0.9102 ± 0.0001
Acid Value (mg KOH/g sample)	0.112 ± 0.001
Saponification Value (mg KOH/g sample)	180.837 ± 2.355

Table S2: Fatty acid composition of Tamanu oil

Compound Name	Compound Group Classification	Carbon Structure/Saturation	After refining
Hexadecanoic acid, methyl ester (Methyl Palmitate)	FAME (Ester Methyl)	C16:0 (saturated)	✓
n-Hexadecanoic acid (Palmitic Acid)	FFA (Free Fatty Acid)	C16:0 (saturated)	×
Hexadecanoic acid, ethyl ester (Ethyl Palmitate)	FAEE (Ester Ethyl)	C16:0 (saturated)	×
9,12-Octadecadienoic acid (Z,Z), methyl ester	FAME (Ester Methyl)	C18:2 cis,cis (unsaturated)	✓
9-Octadecenoic acid, methyl ester, (E)-	FAME (Ester Methyl)	C18:1 trans (unsaturated)	✓
Octadecanoic acid, methyl ester (Methyl Stearate)	FAME (Ester Methyl)	C18:0 (saturated)	✓
Oleic Acid	FFA (Free Fatty Acid)	C18:1 cis (unsaturated)	×
Octadecanoic acid (Stearic Acid)	FFA (Free Fatty Acid)	C18:0 (saturated)	×
Ethyl Oleate	FAEE (Ester Ethyl)	C18:1 cis (unsaturated)	×

Octadecanoic acid, ethyl ester (Ethyl Stearate)	FAEE (Este Ethyl)	C18:0 (saturated)	✓
1-Docosanol, acetate	Impurities (Phos-glycerides)	C22 Fatty alcohol Ester	×
Eicosanoic acid, methyl ester (Arachidic acid methyl ester)	FAME (Este Methyl)	C20:0 (saturated)	✓
Methyl hexadec-9-enoate	FAME (Este Methyl)	C16:1 cis (unsaturated)	✓
Heptadecanoic acid, methyl ester	FAME (Este Methyl)	C17:0 (saturated)	✓
Ethyl 9-octadecanoate	FAEE (Este Ethyl)	C18:1 (unsaturated)	✓

Figures

Figure S1: Effect of solid lipid concentration on PDI

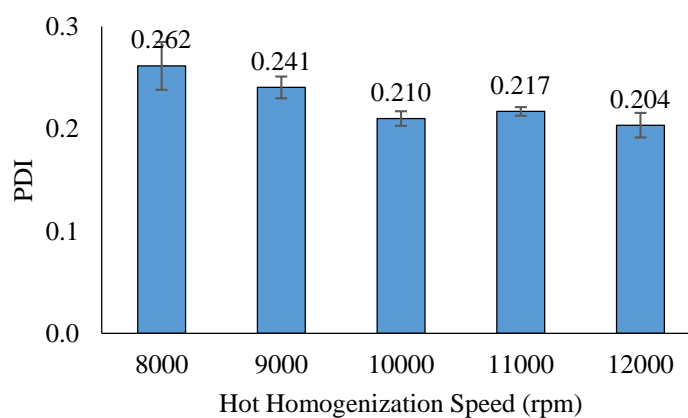


Figure S2: Effect of HLB on PDI

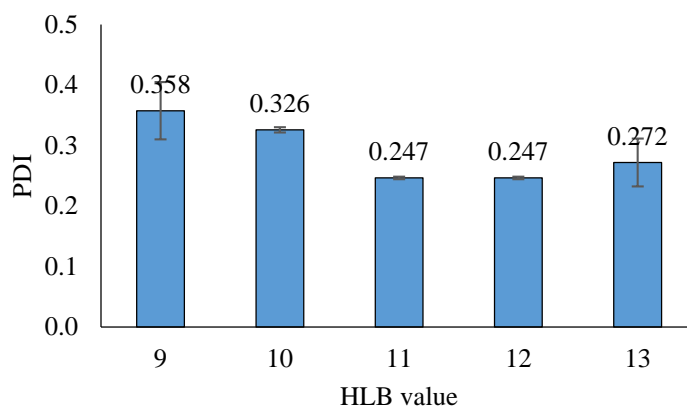


Figure S3: Effect of sonication power on PDI

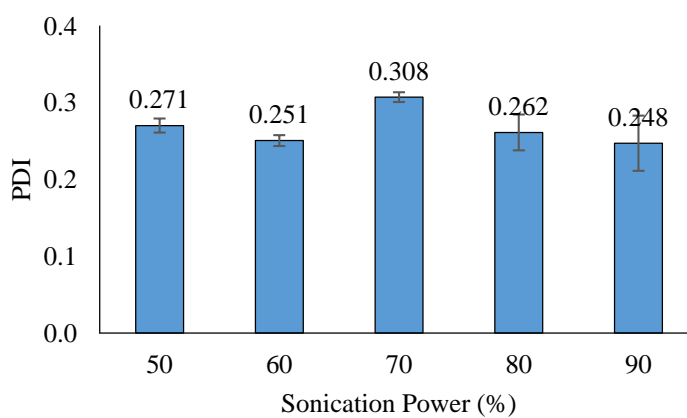


Figure S4: Effect of hot homogenization speed on PDI

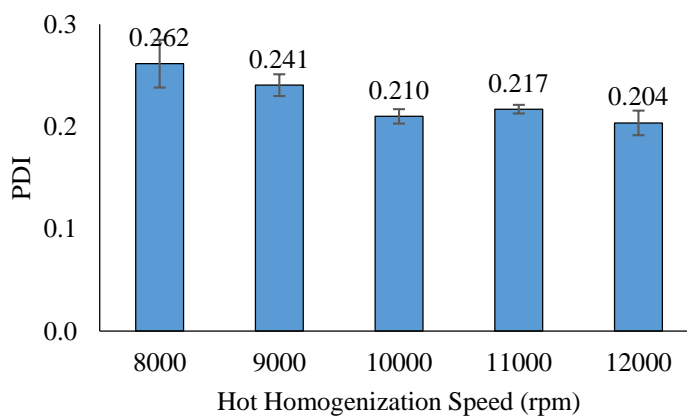


Figure S5: Effect of cold homogenization speed on PDI

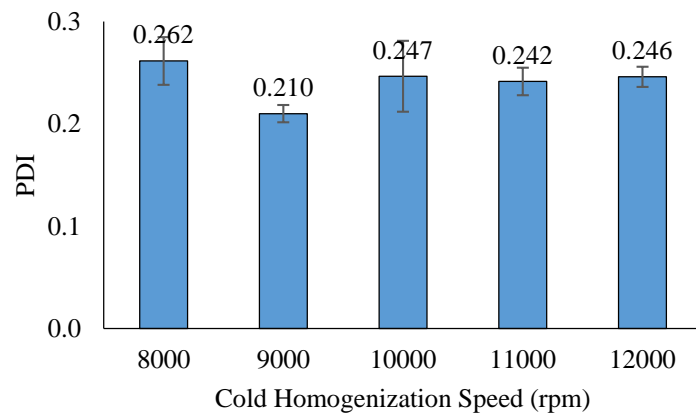


Figure S6: Overview of Z-Average results

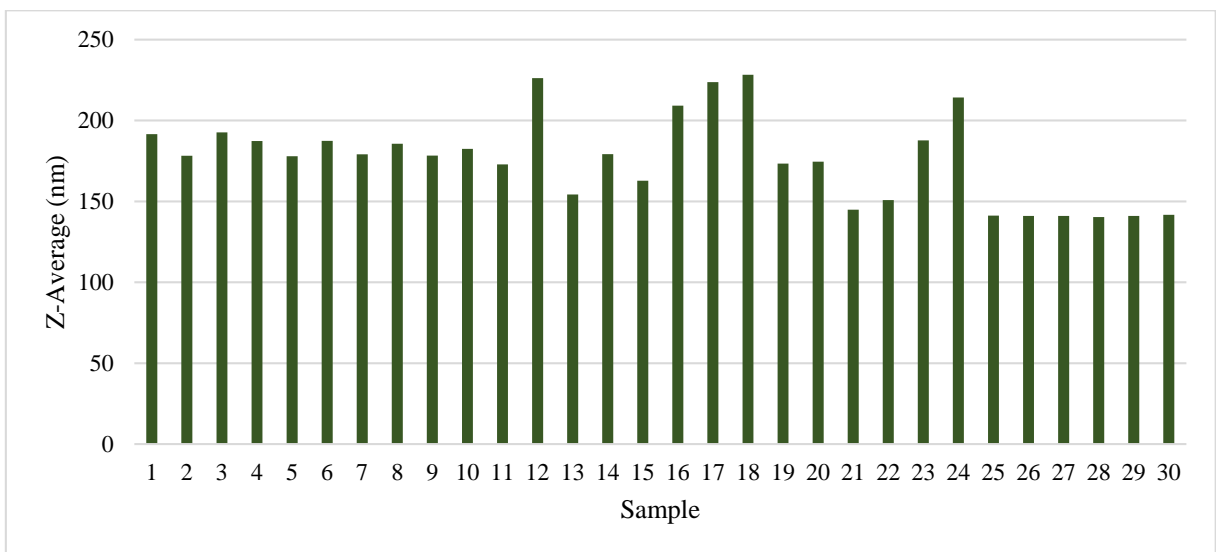


Figure S7: Overview of PDI results

